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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/663,523

09/16/2003

Bruce C. Beihoff

ALBR:0126/YOD /
03AB106

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7590

06/06/2005

EXAMINER

DATSKOVSKIY, MICHAEL V

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ART UNIT

PAPER NUMBER

2835

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,523

Applicant(s)

BEIHOFF ET AL.

Examiner

Michael V. Datskovskiy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 53-61 and 71-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 53-61 and 71-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/16/03; 11/08/04; 01/27/05; 04/24/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 53, 57-58, 71-72 and 74 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamilton et al.

Hamilton et al teach a power converter system, Figs. 13A-13B, comprising: a backplane-substrate 2" for routing electrical power and thermal energy, the backplane 24" including channels 104, 110 for receiving and circulating a cooling liquid; three power converter circuits secured to and cooled by said backplane supporting substrate 24", wherein said supporting substrate at least partially defines an electric reference plane for operation of said converter circuits, and each of the converter circuits includes a substrate 63 having a passage 68 in fluid communication with the channels 104, 110 of the supporting backplane 24".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 54-56, 61 and 73-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton et al.

Hamilton et al teach all the limitations of the claims except several different configurations of the converter circuits, wherein at least one of them is configured to: generate three-phase power (claims 55 and 74); receive DC input power (claims 56 and 75); perform AC-to-AC power conversion (claims 54 and 73); or to operate independently of one another (claim 61). It would have been obvious matter of design choice to configure said converter circuits in the device by Hamilton et al in any one of such modes, since applicant has not disclosed that any one of such specific configurations solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any one of such specific configurations.

5. Claims 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton et al as applied to claims above above, and further in view of the Patent RD 417012 A.

Hamilton et al teach all the limitations of the claims except said system further comprising a flow control valve for regulation of fluid flow through the support (claim 59) and further a thermal sensor coupled to the flow control valve to permit close loop control of fluid flow through the support (claim 60). Patent RD417012A teaches a semiconductor converter liquid cooling system for electric vehicle, including a flow control valve 9 for regulation of fluid flow through a channel 6 of a converter support and further a thermal sensor 8 coupled to the flow control

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been obvious to one ordinary skilled in the art at the time invention was made to employ a temperature actuated flow control valve as it is shown in the patent RD417012A in the device by Hamilton et al in order to enhance heat dissipation and to prevent overheating of the converter.

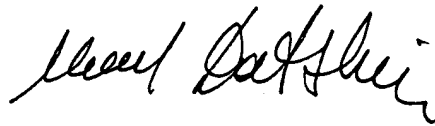
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Akamatsu (US Patent 6,215,682); Mizuno (US Patent 5,333,676); Schumann (US Patent 5,606,239); Settour-Rose et al (US Patent 6,442,023); Fukazu et al (US patent Application Publication 2002/0011327A1); Goodwin et al (US Patent 6,616,469); Ferchau et al (US Patent 5,289,363); Tracewell et al (US Patent 5,945,746) and Sawatani (Japan Patent JP02001284513A).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Datskovskiy whose telephone number is (571) 272-2040. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael V Datskovskiy
Primary Examiner
Art Unit 2835

05/31/2005